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HOPES HIGH FOR YAOUNDE

"Historic opportunity" to revitalize UNIDO

On the eve of the fifth session of the General Conference of UNIDO in Yaoundé, Cameroon, Director-General Mauricio de Maria y Campos called on Member States to profit from the historic opportunity to reshape UNIDO into a demand-driven organization better able to meet the needs of industrial development in developing countries. "Let us, together, profit from this opportunity", he said. "Let us be bold—but realistically bold—bringing up the sustained political will that major transformations require."

He was addressing the resumed eleventh session of the 53-nation Industrial Development Board (28-29 October) in Vienna, which gave its unanimous endorsement of the Director-General's proposals for reorienting the Organization's priorities and reforming its structure. The Board is recommending that the General Conference on 6-10 December approve the proposals.

The Director-General emphasized that the proposals were in response to current global economic, industrial and technological trends and to the prevailing spirit of reform throughout the United Nations system. The reforms were also meant to ensure that financial and other crises in the past were not repeated.

Development objectives

UNIDO has identified five fundamental development objectives that provide a conceptual framework for the Organization's future programmes, set the activities of UNIDO in relation to those of other United Nations organizations and aid agencies, and establish a close link with the developmental endeavours of the developing countries themselves. These are:

- Industrial and technological growth and competitiveness;
- Human resource development;
- Equitable development through industrialization;
- Environmentally sustainable industrial development;
- International cooperation in industrial investment and technology.

These objectives stemmed from an analysis of the emerging pattern of demand for UNIDO services and areas of comparative advantage of the Organization over other agencies, serving as the point of departure for the restructuring and reform process. The Director-General believed that by effectively combining these assets at three levels—policy, institutions and enterprises—UNIDO should be able to establish itself as an international organization with five faces:

- The central coordinating agency for matters related to industrial development;

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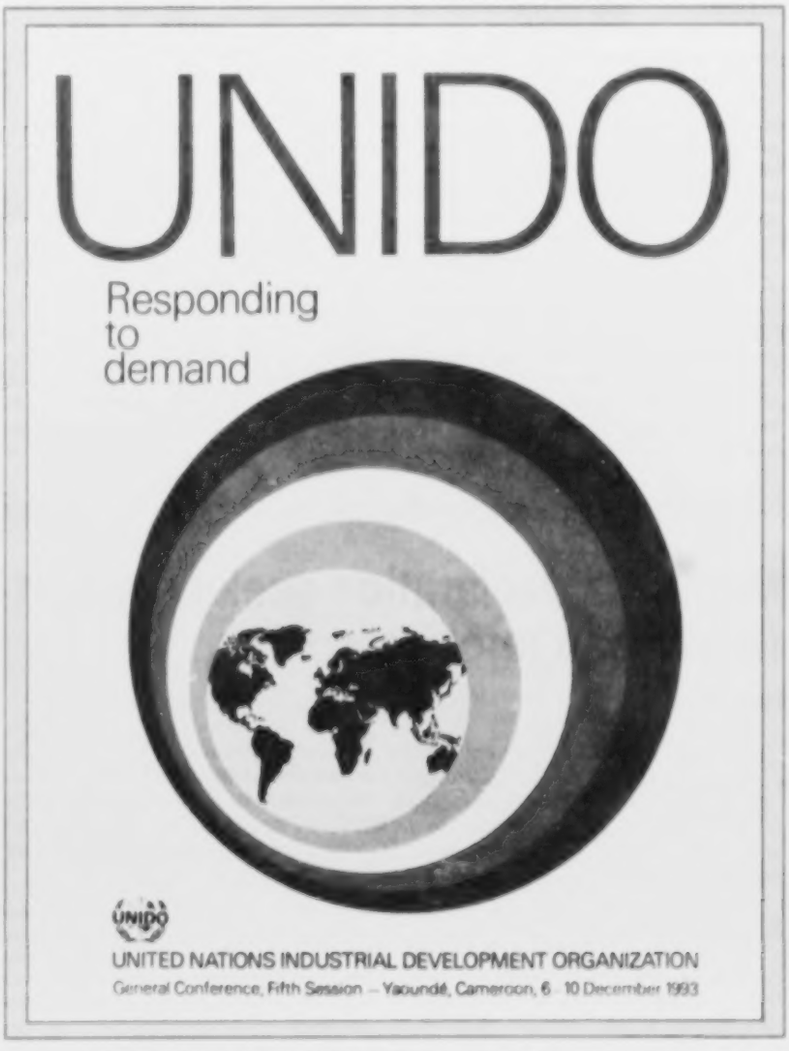

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TOWARDS A YAOUNDE DECLARATION

Fifth General Conference agenda (6-10 December 1993)

"In the annals of UNIDO, Yaoundé needs to be remembered— indeed, spoken of with the same regard—as the second General Conference in Lima", Director-General Mauricio de Maria y Campos told Member States at the closing of the resumed session of the Industrial Development Board on 29 October. "A Yaoundé Declaration can be a call for action in those areas that were the focus of the development objectives agreed to here this week."

About 1,000 participants, some heads of state and more than 40 ministers are expected to attend the General Conference. The general debate will focus on industrial development in the changing global situation and the future policy framework of UNIDO.

Five key areas of UNIDO's work covering 1992-1997 will be discussed: human resource development, development and transfer of technology, industrial rehabilitation, small- and medium-scale industries and environment, energy and sustainable industrial development.

As elements common to these activities, delegates will consider the issues underlying the mobilization of financial resources for industrialization, economic and technical cooperation among developing countries and integration of women in industrial development.

Discussion on the regional dimension of UNIDO will encompass the second Industrial Development Decade for Africa (IDDA), special industrial programmes for the Arab countries and Asia and the Pacific, the regional cooperation programme for Latin America and the Caribbean, industrialization of the least developed countries (LDCs) and technical assistance to the Palestinian people. As the first UNIDO General Conference in Africa, it will also highlight the special industrial needs of the continent.

Three half-day panel discussions will take place on:

- Ecologically sustainable industrial development (7 December);
- Women in industrial development (8 December);
- Private sector development and privatization (9 December).

On 3-10 December there will be a ministerial symposium on the mobilization of financial resources for industrial growth and development in the least developed countries. It is expected to bring together ministers and senior officials of the 47 LDCs with donor agencies and financing institutions.

Elections will be held for 27 of the 53 seats on the Industrial Development Board that fall vacant at the end of the session. The Conference will also elect all 27 Members of the Programme and Budget Committee, who serve a two-year term. ■

Mauritius declaration seeks support for African reforms

*by O. H. Zakiyatou**

"Africa will continue to enjoy the highest priority in UNIDO in the context of the programme for the second Industrial Development Decade for Africa (IDDA, 1993-2002)." This reaffirmation by UNIDO Director-General Mauricio de Maria y Campos served as encouragement and contributed to the fruitful and pragmatic discussions at the eleventh meeting of the Conference of African Ministers of Industry (CAMI 11).

The hopes placed on industrial development as the main engine of African economic revitalization in an increasingly competitive world was evident in the high-level representation at the Conference in Port Louis, Mauritius, from 31 May to 3 June, and at the Inter-Governmental Committee of Experts of the Whole on Industrialization from 27 to 31 May. Of the 45 African countries that took part, 35 were represented at ministerial level.

The Ministers reviewed the progress achieved in their national and sub-regional programmes, which their countries had drawn up within the framework of the second IDDA. They were unanimous in their view that the programmes remained realistic and feasible but voiced concern at the continued internal and external obstacles to accelerated industrialization.

The economic reconstruction of the countries in Eastern Europe and the "large amount of financial resources in terms of aid and investment which are flowing in that direction" were noted with concern by the Ministers and their representatives. They appealed to the international community for equal support through adequate financial resources for their own ongoing political and economic reforms.

The Conference also recognized the cardinal role of the development of the private sector, including small and medium enterprises, as a means of accelerating the second IDDA. The highest priority, the Ministers stressed, was the stimulation of African entrepreneurship.

Self-Reliance

In a message to the Conference delivered by Economic Commission for Africa (ECA) Executive-Secretary Layashi Yaker, Secretary-General Boutros-Boutros Ghali reminded African countries that they themselves bore the major responsibility for transforming the second IDDA into concrete action programmes. He believed that the main task at the national level was restructuring the industrial sector to establish linkages within and between sectors, especially between agriculture and industry, so as to lay the foundation for industries based on domestic natural resources and increased transformation of local raw materials.

Building on the same theme of self-reliance and sustainability, Mr. de Maria y Campos told the Ministers, "I intend to ensure that the resources we have at our disposal are directed to programmes and projects having the greatest possible long-term impact. Projects having no sustained effect will be rejected. In their place, I want projects that build a self-reliant African industry, able to look after itself with expertise and skills available from African institutions, academics, consultants, managers, scientists and technicians."

The renewed commitment of Africa to self-reliance and accelerated and sustainable industrialization was embodied in the Mauritius Declaration at the close of the Conference. It contained "courageous decisions", said the Director-General, which called for action to establish an enabling environment for developing the private sector, to pursue reforms of industrial policies and institutions, to rehabilitate ailing industries, to emphasize the development of small-scale and basic industries, as well as to develop economic infrastructure and human resources.

The Ministers also drew up the African Common Position for the next session of the General Conference of UNIDO, to be held for the first time in Africa—in Yaoundé, Cameroon, from 6 to 10 De-

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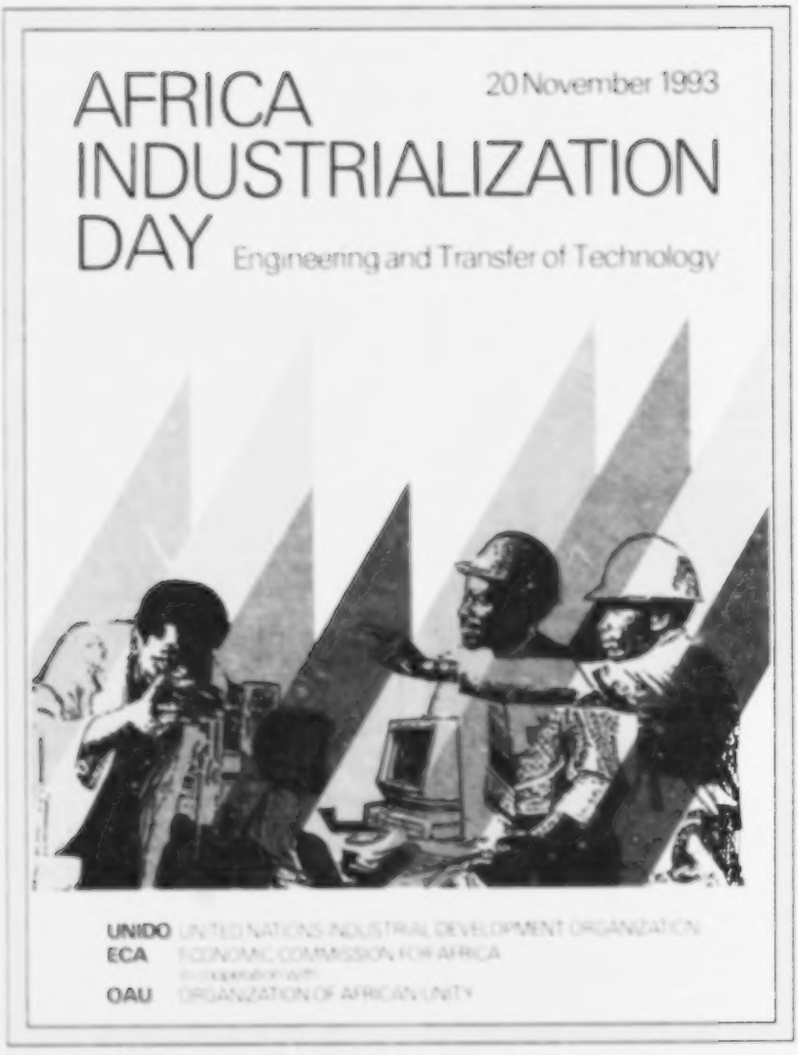

cember 1993. The Conference takes on particular significance as the Director-General will present new directions for UNIDO so that it is "better-tailored to the needs of developing countries, particularly African countries."

A UNIDO paper, "The Challenge of African Industrialization: UNIDO's Response", outlined the Organization's ten-point programme for African industry and formed the basis for stimulating discussions. It will be presented to the General Conference after consultations with Member States, the ECA, the Organization of African Unity (OAU) and the African Development Bank (ADB).

Participants were especially appreciative of Mauritius as an appropriate backdrop for the Conference at a time when countries in the region were going through a period of dramatic economic change and readjustment. Addressing his remarks to Mauritian Prime Minister Aneerood Jugnauth, Director-General Mauricio de Maria y Campos said, "We need, Sir, look no further to confirm that solid development is within the reach of African countries if the circumstances and policies are right for each other."

Jointly organized by OAU, ECA and UNIDO, CAMI is held every two years to examine the progress achieved by African countries in their industrialization efforts and in the implementation of IDDA. The next Conference, in 1995, will be held in Gaborone, Botswana.

The Conference also approved the theme of Africa Industrialization Day (20 November) for 1994, which will draw attention to the role of the private sector. This year's theme focused on engineering and transfer of technology. ■

Programme for Montreal Protocol gains momentum

A Scientific Assessment Panel of the United Nations Environment Programme (UNEP) reported recently that the rate of growth in the atmospheric concentrations of CFC-11 and CFC-12 (chlorofluorocarbons) has slowed significantly as a result of international measures to control emission rates. The Montreal Protocol on Substances that Deplete the Ozone Layer is an important part of this international effort.

The Multilateral Fund for the Implementation of the Montreal Protocol demonstrates the magnitude of success that can be achieved once there is commitment from both developed and developing countries. Although UNIDO became an implementing agency of the Multilateral Fund only a year ago—joining the ranks of the World Bank, United Nations Development Programme (UNDP) and UNEP—its programme has been growing rapidly. The amended work programme of UNIDO, approved by the Fund's Executive Committee at its 10th meeting in June, has already increased its cumulative value to about $2.3 million and expanded its geographical coverage.

Refrigerants

In less than ten months, UNIDO has completed a strategy for phasing out CFCs in Egypt's refrigerant sector. The strategy will ensure the choice of appropriate technologies, the proper sequence of priorities, cost-effectiveness and maximum impact. UNIDO is also prepared to undertake similar exercises for the Governments of Cameroon and Pakistan.

Also in the manufacture of domestic refrigerators, the Executive Committee has approved preparatory assistance to develop full-scale projects in the Islamic Republic of Iran which should result in the phasing out of more than 750 metric tons of CFCs a year.

Tobacco fluffing

Large quantities of CFCs are used in tobacco fluffing in the huge tobacco industry in China. Since the issue was not addressed in the country programme for China under the Multilateral Fund, UNIDO provided the missing link by developing a pilot project for substituting CFCs with a non-ozone-depleting substance (non-ODS). The project will be duplicated throughout the country and will eventually result in the reduction of substantial amounts of CFC consumption.

Electronics

In the electronics industry, UNIDO has developed a project in India to replace CFCs by non-ODS in the cleaning of electronic parts and components. This will have a tremendous impact, considering the fast-growing electronics industry in India and other parts of Asia.

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Montreal Protocol

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Strengthened cooperation

These are but a few examples of the activities UNIDO is carrying out under the Montreal Protocol. At the same time, active consultations have been taking place with the Governments of Kenya, Fiji, Romania and others either for preparatory work or for project formulation. The amended UNIDO work programme to be submitted to the 11th Executive Committee of the Multilateral Fund in November in Bangkok will surely see a further leap both in monetary value and in geographical coverage.

UNIDO has also strengthened its cooperation with the other implementing agencies, UNEP and the World Bank in particular. A draft Memorandum of Understanding between UNIDO and UNEP has been prepared to formalize cooperation under the Multilateral Fund. Specifically, UNIDO has been asked to formulate and implement investment projects and plant-level training projects for country programmes developed by UNEP. UNIDO will join UNEP in preparing these programmes, especially in formulating investment projects. ■

An operator in a Kenyan plant pours foam into a form to produce an insulation panel for a refrigerator. Refrigerator plants such as this one stand to benefit from UNIDO projects to phase out CFCs in the manufacturing process

Networked knowledge: information for all

*by Paul H. Makin**

The dramatic advances in the information industry show no signs of letting up. Specialized on-line data bases and CD-ROMs continue to multiply, not to mention the more traditional information products such as technical journals and press reviews. The impact of electronic networking on communications and access to and delivery of information through such global networks as the Internet—currently boasting 25 million users and expected to grow to 250 million by the year 2000—is profound and promises to be a crucial factor in tapping the world's resource of knowledge. The result is that enterprises, R and D institutions, government administrations and individuals can have easy and inexpensive access to valuable information products and services, and people.

Although industrialized countries have been reaping benefits from this impressive development, the situation is not so favourable in developing countries. The new information industry threatens to widen the gap between developed and developing countries unless appropriate solutions are found. The developing country Member States of UNIDO are demanding more and more advice on, and access to, these new products and services. The role of information intermediaries like UNIDO in redressing the balance has taken on increased importance.

Challenge for INTIB

The major challenge facing the information officers in the Industrial and Technological Information Section, better known as INTIB, is how to provide both Member States and UNIDO staff with rapid access to all types of information that is both internal and external to the Organization. But this is not enough: INTIB staff must also help build self-reliance and sustainability in the area of information within and between Member States.

The transformation of industry from an energy-intensive and materials-based production process to an increasingly flexible information- or knowledge-based activity is being reflected in the growing importance given to information in UNIDO activities. In the final analysis, long-term growth in productivity is related to the introduction, dissemination and use of information in technical and organizational innovations.

INTIB is using a variety of methods to respond to this challenge. It runs a network of focal points acting as information clearing-houses in Member States; it is establishing an International Referral System of specialized sources of technology and investment information to handle industrial inquiries more efficiently and effectively; it is using novel and innovative activities such as Techmart (see box) to facilitate the transfer and exchange of technology; and it is attempting to connect the members of its network to global information networks such as Internet.

Focal points

Over the past five years, INTIB has built up a network of more than 80 Government-nominated national and regional focal points. Among their responsibilities are assessing and endeavouring to satisfy national information needs, especially for small and medium enterprises (SMEs). The network revolves around the four Regional Focal Points for Asia and Pacific, Africa and Middle East, Latin America and Europe, with each one coordinating activities of national focal points.

In addition to providing focal points with equipment and staff training, INTIB supports them continuously by supplying them with information products (see box) and assists them in marketing their services.

International Referral System

The International Referral System is an integral part of INTIB's networking activities and is expected to become a vital tool for the focal points in building self-reliance. In cooperation with a Government-designated organization, INTIB is making an inventory of all the specialized sources of technology and investment information in each Member State.

For each source identified, a table is produced indicating what types of query the source can handle, what sort of replies it can provide and at what cost. The tables are collated into a printed national direc-

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Editor's note: This is the second in a series on UNIDO information and research activities. *UNIDO Update No. 2/1993* carried a feature on industrial statistics.

tory and cumulated in a referral database. When an inquiry is received at UNIDO Headquarters or at a focal point, both the directories and the database serve as a rapid means of identifying and matching several sources of information in response to the inquiry.

Resource management

UNIDO can draw on a massive fund of knowledge: several hundred experts and consulting firms hired for projects and more than 400 professional staff at Headquarters dealing with the full range of industrial activity in developing countries. To exploit the comparative advantage of UNIDO—its corporate knowledge of industry worldwide gained from the technical and administrative areas of the Organization—INTIB has developed comprehensive tools for information resource management.

For example, the generic system, REED, is a standardized multi-purpose database used in several units in UNIDO. At the moment, it is meant specifically to support the energy and environment information programme initiated in 1987, but it could be used virtually without change for information in any sector. The system is available on mainframe, microcomputer and local area network (LAN). It can also function in a UNIX environment and can be made available on CD-ROM.

The development of systems such as REED is part of an on-going effort by INTIB to mobilize all individuals and teams within the Organization in the information process. All staff members are information collectors, information disseminators, as well as users and require such systems to manage their information. An emphasis is also being placed on other ways of promoting in-house awareness and information dissemination.

Linking everyone

An important aspect of the work of the Industrial and Technological Information Section is the enhancement of the information flow—within, to and from—developing countries. This entails finding the most efficient and effective way to communicate with all members of the network. In both developed and developing countries, the quickest, least expensive and simplest way of communicating has proved to be via electronic mail through a variety of networks.

At present, Internet is the network of choice. Far more than a way of simply exchanging electronic mail, Internet allows users free access to information sources and databases located on any remote computer connected to it. Internet also permits users to download or transfer files—both documents and computer software—from these remote computers and to conduct business. INTIB is systematically surveying the different possibilities for connecting focal points that are not yet on the Internet or other electronic mail system. ■

INTIB staff member Ouseph Padickakudi demonstrating database at workshop in Lagos, Nigeria

Techmart: a unique mechanism for technology transfer

Techmart is a meeting place where technological resources and the latest developments in manufacturing industry are brought together and new business opportunities are offered to leaders of manufacturing businesses in both developed and developing countries.

It provides a unique setting for the conclusion of practical business arrangements focusing on technologies, including the financial, legal and investment advice required to produce a powerful solution to technical and entrepreneurial problems. For developing countries, in particular, Techmart is an efficient way to select, acquire, adapt and apply foreign technologies and merge them effectively with their own indigenous technologies.

To facilitate the process of matching technologies with needs, UNIDO compiles and publishes a technology compendium well in advance of a Techmart, describing thousands of technologies currently available for transfer to developing countries. Thus, Techmart is the only event that enables entrepreneurs to identify required technologies before they decide to attend.

The events are aimed at the business person, the manufacturer, and the buyer or seller of technology who wishes to generate productive new business. Techmart also presents an important opportunity for technical universities and research institutes to seek outlets for the results of their work and to identify new areas for R and D.

A selection of UNIDO information resources

Industrial Development Abstracts (IDA). The main source of information on UNIDO activities in developing countries. Available as a complete database (some 20,000 records) on the UNIDO mainframe or as subsets for microcomputers.

Technology Supply Data Base (TSDB). Contains information on technology offers and requests collected for Techmart events. Available for the microcomputer.

Referral Database on Energy and the Environment (REED). A system relevant to industry and environment containing bibliographic information, information on institutions, experts, computerized sources, technology descriptions and vendors. Available on mainframe and microcomputer. Also available as a general tool for information resource management.

Micro-METADEX^{PLUS}. A database for the microcomputer containing selections of information from the world's leading metallurgical database.

Doing business the South Pacific way

SOLOMON ISLANDERS BASK IN ENTREPRENEURIAL ROLE

*by Naima Hasci**

HONIARA, Solomon Islands—The initials in "AM Small Engine" stand for Andrew Maukera, the proud owner of the small but successful motor repair shop on the edge of the bustling downtown area of Auki. Mr. Maukera completed a training seminar on how to manage a mechanical workshop held at the Ministry of Commerce and Primary Industries in June 1991. Not only did he learn how to repair a complete line of small motor engines, he also mastered the subtleties of bookkeeping, management accounting, costing and pricing, and marketing.

AM Small Engine is one of about 110 enterprises that have received business and technical support services over the past three years under a UNIDO-implemented scheme, funded by UNDP, to promote the development of the Pacific archipelago's small- and medium-scale industries. So far, the scheme has generated well over 200 jobs. At the same time, the project is strengthening the capability of the Ministry of Commerce, Employment and Trade (the new name of the Ministry of Commerce and Primary Industries) to offer extension services to small businesses through its Industrial Development and Business Development Divisions.

The results, which the project systematically monitors and evaluates, bode well for the Government's goal to diversify economic activities in the islands, whose 326,000 people are largely dependent on subsistence agriculture. About 350 participants have benefited from 23 business courses and 12 technical courses. Forty new enterprises have taken off, to be followed by at least another 10 by the end of the year. About 70 existing businesses have either expanded or have been placed on a firmer footing through project advice and concrete assistance. And, in keeping with the Government's efforts to nudge development outside the urban areas, more than half of the businesses that have been helped are in provinces.

Fit for a king

"Solomon's Choice", which specializes in coffee, cocoa and spices, is one of the older businesses that have been given new life by the project. For the fiftieth anniversary of the battle of Guadalcanal in August 1992, the project helped manager Gilbert Leamana to launch an advertising campaign and to create a new logo ("Fit for a King . . ."). Mr. Leamana hopes to capture a portion of the American tourist market with the help of a friendly group of nostalgic veterans. Encouraged by his monthly sales, Mr. Leamana is keen to expand his business and dreams of one day exporting coffee to neighbouring Pacific countries.

Entrepreneur Gilbert Leamana aims to convince that Solomon's Choice spices are fit for a king

The project, designed to unleash the islanders' entrepreneurial spirit and catalyze private initiative, fits neatly into the mixed bag of mostly "wantok" or family-based operations—from pineapple juicing, peanut roasting, and jam-making, to roofing tiles, timber milling and furniture making. Like mobile missionaries, a zealous team of business advisors reaches out directly to the individuals behind the various ventures to help identify and solve their urgent and long-term needs—whether it is preparing a loan application, finding the right source for equipment or carrying out a feasibility study.

The idea behind the project, explains Vincent Palcong, the project's furniture specialist, is "to identify and support viable new and existing businesses, nurture them and follow up on their progress without holding their owners' hands too long. The work involves not only provision of technical services and business training. Sometimes we even provide family counselling. This is part of the holistic approach we use in promoting entrepreneurship development within the local context."

*Naima Hasci was a UNDP Programme Officer covering the South Pacific Region from Fiji in 1991-1992.

Progress on SME programme

The scrutiny and review given to the small and medium enterprises (SMEs) programme of UNIDO at an Expert Group Meeting on 23-25 August in Vienna came at an opportune time. Within the proposed reorientation of priorities and restructuring of UNIDO, the significance of SMEs as efficient agents of industrial development is being reaffirmed.

Thirty-three experts from industrialized and developing countries adopted recommendations which may have a far-reaching impact on the future of the SME programme and activities of UNIDO. The experts' task was to review these activities with a view to identifying areas of concentration for UNIDO technical services and modalities of cooperation.

The meeting emphasized that the Organization's SME strategy should focus on growth-oriented, competitive and dynamic SMEs and should address vital issues of competitiveness, growth, productivity and sustainable development. These key concerns are areas that represent a unique niche for UNIDO in international cooperation.

The meeting endorsed UNIDO's approach to SME development at the policy, institution and enterprise levels, with institutions the primary focus. Activities at the enterprise level would be exceptional and would focus on projects of an innovative and pilot nature, within clearly established national development priorities and only when results could be disseminated widely.

The Organization's sectoral specialization, accumulated experience in specific subsectors and neutrality were cited as comparative advantages in SME work and could serve as a basis for UNIDO becoming a think-tank for SME development.

Welcoming the new orientation of UNIDO towards working closer with the private sector and private sector associations, the meeting concluded that UNIDO was well placed to play an intermediary role between government institutions and enterprises.

Unprecedented impact

Over a three-year period, Mr. Palcong has trained 40 joiners in wood finishing and machine operation and maintenance, adapting techniques to suit local conditions and available funds. In September 1991, these efforts culminated in an exhibit of locally made furniture. Reporting on the event, the *Solomon Island Star* commented that the joiners assisted under the project had had an "unprecedented impact" on the island's joinery and furniture industry.

The case of Hedley Toata illustrates how the project is empowering young people to help themselves as well as others. A self-made businessman, Mr. Toata operates T.S. Joinery with 17 employees whose ages range from 16 to 24. He is doing so well that, in his mid-twenties, he has already bought his first dream home. His advice to his contemporaries: "Get off the streets and start your own business."

Networking

The rewards of resourceful networking with the banking community, business and trade associations and educational institutes continue to be reaped by the project. The Central Bank, on its own, set up a credit guarantee scheme for entrepreneurs. With the Government of the Solomon Islands and the Government of New Zealand providing seed money, the Ministry staff—through the National Bank of the Solomon Islands—administer revolving funds for small and medium industrial type businesses.

One of the first beneficiaries of a bank loan under the project is Ben O'foania. He manages A&A Brothers Enterprises, which undertook a study in 1991 revealing that more than $1.5 million worth of mostly imported snack foods were consumed in the Solomon Islands the previous year. With the help of the project, A&A Brothers expects to grab a share of the munching market with fresh, crisp and natural products that appeal both to the palate and the wantok-consciousness. Under the label "Fresh Chips A&A", packaged snacks from bananas, *kumara* (sweet potatoes) and cassava can be found on supermarket shelves around the Islands.

Big booster

Francis Mete, Director of the Business Development Division, is convinced that the project has been a big motivational booster to the leaders of the business community. In 1992, 22 senior advisers from the business and cooperative sectors took part in a pioneering seminar on how to coordinate and promote small- and medium-scale industries. The project has completed a reference manual for business advisers and is about to publish a directory of small- and medium-scale industries classified according to products and provinces.

Under the extended phase of the project, new activities are under way aimed at strengthening links between the private sector and the Ministry as well as with provincial authorities. A Small- and Medium-Scale Industry Consultative Committee is being formed as a mechanism for sharing information and experiences among leaders of industry and non-governmental organizations. A business data dissemination system is also being designed.

Sustainability

Project staff are now phasing out their direct assistance to enterprises and preparing to turn over the reins to their national counterparts through intensive training courses designed to make them fully-fledged business advisers. Once capacity-building is firmly entrenched and project activities are consolidated, the Business Development Division and the Industrial Development Division should continue to be a major source of solid support in developing the Solomon Island's industrial base at the grass-roots level.

A recent Asian Development Bank report noted the positive impact of the project assistance rendered by the Government's Industrial Development Division on the economy of the Solomon Islands. Comments Richard Pezzulo, Chief Technical Adviser of the project: "This recognition has come about because of the dedication and support of Ministry staff and Business Advisers, the Solomon Islanders' keen interest in learning about starting and improving a business, and the dedication and skill of international staff associated with the project." However, he added, "the real story is that national staff are now capable of providing assistance to the small- and medium-scale industrial sector." ■

Managing technology: a matter of survival

In a world marked by rapidly changing technology, the goal of developing countries to enhance their global competitiveness has become even more formidable than only a few years ago. Industrial planners and decision-makers everywhere are realizing that technological development is not something one simply waits for and that it is, in fact, a process that *has* to be managed.

The area of technology management is developing so fast that UNIDO felt it was the right time to bring together high-level international experts on the subject. On 1-3 September, 18 such experts—from Governments, research institutes, consulting firms, universities and business—met in UNIDO to exchange ideas and present recommendations which can serve to guide the Organization in the design of its future programmes.

Participating in the meeting were some 20 UNIDO staff members, headed by Director-General Mauricio de Maria y Campos, who has a keen interest and several years' experience in technology management. Discussions aimed at obtaining as complete a picture as possible of the requirements of developing countries at the policy, institutional and enterprise levels.

Enterprise level

It was immediately evident that the focus of technology management was at the enterprise level and that even at the institutional level, the needs of enterprises were the determining factors. After three full days of deliberations, the group felt that UNIDO could contribute to the wider application of technology management in developing countries in a number of ways.

The group stressed, however, that the differences in levels of development between countries would very much influence the choice of activity. Some features were generally agreed upon—such as the need to build awareness of the importance of managing technology as a conscious effort to gain a competitive edge and, indeed, to survive. The experts suggested that this could be done through workshops designed specially to meet the particular needs of the target group and place.

The meeting also emphasized that technology management could not—and should not—be dealt with in isolation. On the contrary, the issue was an integral part of the management of industrial enterprises, large and small, and should therefore be integrated in the technical assistance activities of UNIDO as a permanent feature.

Dialogue

The application of technology management at the policy level turned out to be a more complex matter. This was attributable to a series of circumstances, many of them of a political nature. There was consensus, however, that government policy should be a result of a dialogue among the Government, institutions and enterprises.

In his closing statement, Mr. de Maria y Campos reiterated that technology management was a key area for UNIDO assistance in its endeavours to make industry in developing countries competitive, a sentiment echoed by Ernest Obminski, Deputy Director-General of the Department for Industrial Promotion, Consultations and Technology. ■

Training programme gears up for UNIDO in transition

At his meeting with representatives of Member States on 16 September to inform them on his proposals for the reorientation of UNIDO, Director-General Mauricio de Maria y Campos reiterated that "Training of staff and upgrading of their technical knowledge and skills, within and outside the Organization, is necessary if UNIDO is to maintain its professional excellence." In his foreword to the comprehensive Staff Training Handbook, *published to support a systematic training approach in the Organization, the Director-General also noted that UNIDO required not only high academic standards but also other basic aptitudes as a foundation on which to build broader job-related skills. These aptitudes involved learning to learn, creative thinking, listening skills, conflicts resolution and mapping out a vision for the future.*

The following feature on the "Challenge of Change" seminar introduces a UNIDO Update *series illustrating how training and staff development activities are helping facilitate the achievement of organizational goals and are assisting management and staff to face the demands of a changing work place—whether the activity's objective is to impart new knowledge, upgrade skills or bring about new attitudes. Future issues will focus on team-building and team performance and the linkage between leadership styles and effective management.*

"Meeting the Challenge of Change" was the subject of three pilot seminars, each held in three separate one-and-a-half hour sessions in August, September and October. More than 100 staff members participated, some with their spouses.

An initiative of a group of staff members and the Staff Development and Training Section, the Challenge of Change seminar aimed at starting a collective process of self-reflection on the consequences of change in the working environment and in private lives. It was also meant to assist staff members and their families during a period of personnel redeployment and reduction under the foreseen restructuring of UNIDO. (As of 28 October, 80 staff members had agreed to separate from the Organization, including cases of long-term mission assignments and special leave without pay.)

A needs-assessment questionnaire filled out by participants before the workshop revealed that their major concerns dealt with current or anticipated organizational changes. In addition, some had experienced a severe personal crisis that had had a dramatic impact on their lives. This combination of pressures had resulted in significantly high stress levels in some of the participants. Staff were especially affected by the unclear expectations of them on the job, little opportunity for advancement and increasing work load because of decreasing staff.

The seminar was divided into three areas: understanding change in our lives, recognizing resistance to change, and exploring optional strategies to adapt to change effectively, including renewing efforts to learn new skills and developing personal action plans. Participants were given the opportunity to identify the various phases of the process of change, to understand how resistance to change inhibits the ability to make a positive transition and to select strategies to help them move through change.

Among the most enlightening features of the workshop were those that explained the key concepts of change (change creates stress, stress accumulates in a rapidly changing environment, stress can be managed constructively, attitudes affect a person's view of change); a survey of self-defeating thoughts, attitudes and beliefs; components of effective listening; steps to balanced living; and a personal action plan on problem-solving and goals.

Virtually all participants felt that the sessions addressed most of their concerns and rated the programme very high. "The social readjustment scale helped me understand why I reacted so badly to stress in the past", said one participant. Still another commented: "The programme made me understand the need to thrive rather than just to survive and cope." ■

The concept behind the "Challenge of Change" course

*by Janet Foerster and Lilian Grace Rojas de Knaus**

Change is no longer something unusual that disrupts one's life occasionally. In this rapidly changing global culture, change has become a way of life. Whether we are discussing personal or world issues, change is the order of the day. Thus, the main challenge is to develop internal strength—"preventive medicine"—against the stresses of accumulated change.

It is not uncommon for people to be facing unforeseen changes at work, at home, with relatives, and in their health all at the same time. The United Nations itself is at present in the throes of fundamental changes.

But even disruptive change can be viewed as an opportunity. One of the most important strengths one can have in order to recognize the opportunities presented by change is a balanced life. In some cultures, we are taught that we should define ourselves in only one way—for example, by our job title, like "manager" or by our role in the family, like "mother". So, we put a tremendous amount of time, energy and sacrifice in that one area of our life that we define ourselves by. The trouble is that there is no guarantee that the job or the role will always remain the same.

Sometimes the loss of a job, no matter the title, can feel like the loss of life itself to someone who has ignored all other aspects of life to totally devote themselves to work. Even if one claims that one has a hobby or friends to help balance life, one often does not devote the time or nurturing that such balance requires.

Most people ignore their basic health needs such as adequate rest, diet and exercise. They keep themselves in the mode of coping and surviving, but not thriving. Therefore, when either a sudden change or accumulated changes shock the system, the person feels overwhelmed rather than challenged. It is urgent that, firstly, individuals reassess how imbalanced their lives have become; and secondly, that they seek out the resources necessary to build balance back into their lives.

In the final analysis, a balanced life is the best preventive medicine for meeting the challenges of change.

*Janet Foerster and Lilian Grace Rojas de Knaus, experts in health education, counselling and organizational psychology, conducted the pilot "Challenge of Change" workshops.

Hopes high for Yaoundé

(continued from page 1)

- A focal point for industrial technology;
- An honest broker for industrial cooperation;
- A centre of excellence on industrial development issues;
- A global source of industrial information.

Sound management procedures and operational systems would be a pervading feature of the restructuring. The emphasis would be on optimum use of staff resources, quality management, rationalization and decentralization of decision-making, coordination and team work, and a flexible administrative structure.

The Director-General outlined specific structural changes: UNIDO would have a streamlined and less costly top-management structure without Deputy Directors-General, representing an innovative management style in the United Nations common system. Programme management responsibility would be primarily at the level of Division Director. Two permanent coordination bodies would be established, a Policy and Management Com-

mittee and a Programme and Project Review Committee. Resources would be redeployed to strengthen substantive capabilities as well as to increase and enhance technical assistance delivery.

The country focus would be reinforced in UNIDO programmes. Country presence and field representation would be strengthened. Major substantive programmes would be regrouped. Quality assurance would be designed into revised programme and project development procedures.

Services

To meet its development goals, UNIDO would provide a range of services. Analytical research and surveys would be carried out at the global, regional, country, subsector and issue-specific levels. Advisory support would be offered for industrial policy. Institution-building measures would help promote technological, technical, management training, investment related and other capacities. Information, statistical data and other types of information would be provided on technology, investment, training and industrial policies and prospects.

Technical cooperation would continue to constitute the main category of service. Other major services would include training, industrial networking and broking, assistance to small and medium enterprises and environmental protection.

The Director-General noted that Member States themselves had drawn attention to many of the Organization's structural problems and the need for new priorities. These were further elaborated internally by the Task Force on Priorities and Structural Reform, which he established in June 1993. Externally, he added, the process of reformulating priorities benefited from discussions with Africa's Ministers of Industry in Mauritius and with Latin American representatives in Caracas. Further feedback came from a dialogue initiated with the Vienna-based Permanent Missions and from Governments.

Mr. de Maria y Campos called for the support of Member States in ensuring that the transformation proceed as rapidly and as effectively as possible. "The best scenario is one that allows the new machinery to begin running as fully as possible on the 1st of January 1994", he said. To meet this target, the Programme and Budget Committee and the Industrial Development Board met again in Vienna on 22 November to consider necessary adjustments to the proposed regular budget for 1994-95, within the financial ceiling already recommended.

Officers

The President of the Board was Thereza Maria Machado Quintella (Brazil). The Vice-Presidents were Fisse Ha Yimer (Ethiopia), Jane Becker (United States) and Kamal Nain Bakshi (India). The Rapporteur was Nikolai Tchoulkov (Russian Federation). ■

OPTIMAL RESULTS FOR SYRIAN OPTICS

The Syrian Arab Republic can now lay claim to its first locally designed and manufactured high-standard microscope, guided by a team of international experts working under a UNIDO project. With its intricate maze of parts and components that demand exacting skills, the tiny instrument underpins Syrian hopes of expanding its pool of appropriate technology by building up its national technological capabilities.

The Syrian Government has long recognized the need to start reversing its pattern of traditional dependency on imported technology. Through the years, most of the country's industries have revolved around turn-key projects involving licence agreements with overseas suppliers. This has done little to nurture a home-grown technological infrastructure including spare parts, repair and maintenance, and advisory services.

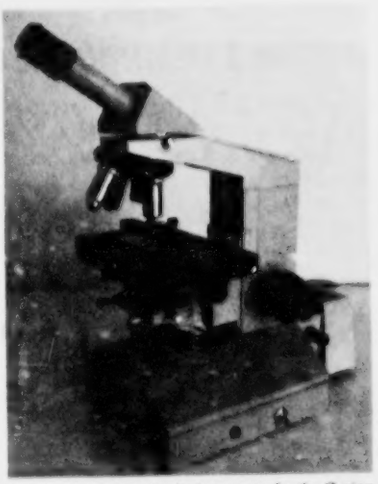
The prototype microscope is only one of the first tangible results of UNIDO and UNDP efforts, since 1988, to raise the capability of the Optics Group of the Higher Institute for Applied Science and Technology (HIAST) to world-class standards. Established within the Scientific Studies and Research Centre (SSRC), HIAST is known as the breeding ground of the country's elite corps of scientists and researchers.

This reputation has been boosted by the new laboratories and optical and mechanical workshops established by the project for the Institute's Optics Group. The optics library has been expanded and updated, and computer software was developed for the design of optical components and systems. The new facilities, integrated into modern and well-equipped buildings of the SSRC on the northern outskirts of Damascus, are now ready to serve as on-the-job training sites in optics techniques for young Syrian scientists, engineers and technicians.

Four international specialists in optical design, instrumentation, testing, measuring, tooling and fabrication all had a hand in the selection and installation of equipment and in the training of local staff in operation and maintenance. Adding another interesting dimension to the project was a team of eight United Nations Volunteers from China, experts in optics techniques from the Changchun Institute. Each of the volunteers worked with as many as eight advanced engineering students at a time, providing them with access to applied technology right from the start of their involvement with theoretical sciences.

Some 19 Syrians benefited from fellowships in optical design at well-known manufacturers and institutes in Germany and the Russian Federation. Two groups undertook study tours revolving around project development in India, the United Kingdom and the Russian Federation.

Finding a firm or an institute anywhere in the world that would be prepared to share the know-how behind optical elements, systems and machines is difficult enough; the cost is also prohibitive. To help develop the prototype microscope, UNIDO found an ideal and willing partner in the Leningrad Institute for Fine Mechanics and Optics (LIFMO) in St. Petersburg. Over a period of one year, Russian technicians transferred the necessary optics skills to their Syrian counterparts, who should now be able to modify the design of their first microscope and to develop completely new prototypes of instruments of the same high standard.



The first high-standard microscope for the Syrian Arab Republic

The Syrian Scientific Studies and Research Centre and St. Petersburg's LIFMO and University of Communications (LESI) have developed a long term cooperation programme which will continue beyond the framework of the project.

In a frank assessment of the project's impact, an independent evaluation team noted that the achievements of the project were due in no small measure to the extremely smooth synchronization between training of personnel and installation of sophisticated equipment.

Now that the Optics Group has demonstrated its scientific and technological capability, the evaluation team felt that the most urgent tasks at hand were the marketing and commercialization of products, closer coordination between R and D and industry, and a more defined role for the Optics Group in the country's social and economic development efforts.

The team also noted that the contribution of the Syrian Government went over and beyond the specifications of the project in terms of additional equipment, project personnel and management staff. This reflected the Syrian Government's commitment to developing its home-grown technology, starting with the optics sector, and translating it into practical uses for its schools, laboratories, hospitals and industry. ■

Q and A • Q and A • Q and A • Q and A • Q and A • Q and A • Q and A • Q and A • Q and A • Q and A • Q and

MERGING TRADITIONAL MEDICINE WITH THE NEW

At the close of the four-day Regional Consultation on the Industrial Utilization of Medicinal and Aromatic Plants in Asia and the Pacific, Sylvia Broere-Moore, Chief, Public Relations and Information Section, spoke with Professor Sami A. Khalid, Dean of the Faculty of Pharmacy, University of Khartoum, who chaired the Consultation. Also participating in the interview on UNIDO Radio on 8 July was Hayat Mehdi, Director of the System of Consultations Division. Excerpts follow.

Q: You've just finished a meeting in Vienna which drew about 100 experts from more than 30 countries and about 12 United Nations agencies to look at the question of the industrialization of herbal, medicinal and aromatic plants. What were the highlights and the major conclusions?

Khalid: The meeting brought together major actors from different countries and continents to discuss issues related to the development of medicinal plants into pharmaceuticals as well as the means of making them more easily available to the public in remote areas. We emphasized that we should look into their integration into the primary health care system. The other issue was how to convert these plants into more useful pharmaceutical preparations. This means that we have to consider their safety, their efficacy and then the consistency of the supply of the plant material.

Q: How would you go about organizing their use, say, in your country?

Khalid: There are a number of steps involved. The first is the identification of these plants and getting the experts and the traditional healers together in some sort of dialogue, which is essential since we can in this way recognize, scientifically, what sort of material they use. This is termed herbarium identification. The second stage involves pharmacological studies to verify the claimed traditional use in laboratory conditions. Once we have done this, then we move on to the stage of standardization—making standard dose formats.

Q: Mr. Mehdi, do you think that the average citizen in the developing countries is going to be able to afford these medicines?

Mehdi: First, let me say that what we were looking at is a marriage of the traditional and the folkloric with the modern, because we are building on the accumulative knowledge of centuries in plant medicine and trying to bring it to the modern standards that are required.

Seventy to eighty per cent of the world's population depend on herbal medicine for their primary health care. This is a striking fact, and one has to remember that while most of these people are in the developing world, many are by choice moving away—either because of the cost or because of dissatisfaction—from the allopathic form of medicine and going to the traditional ways of healing. So you have a very large number of people in both developing and developed countries who are relying on traditional herbal medicine.

Since these medicines are plant-derived, they are far cheaper, easier and more accessible, in addition to being a source of income for many families and communities, especially in the aromatic plant area where large communities also depend on it to make essential oils, for example.

One of the major recommendations is that UNIDO should help developing countries process the raw materials which they now export. And this recommendation also has a bearing on the question of poverty alleviation. What is happening now is that the raw material is sent out, it is processed somewhere else and imported back into the producing countries at exorbitant prices. So the idea would be for UNIDO to help process this raw material *in situ* and convert it into products and then export those or use them locally. So it is also, indeed, a foreign-exchange earning mechanism that we have here.

Q: How does this relate to the whole issue of biodiversity?

UNIDO: healthy record in medicinal plants

More than a decade and a half ago, UNIDO launched a programme to exploit a renewable natural resource—medicinal and aromatic plants—in a systematic manner and for the benefit of the populace of developing countries. Since then, UNIDO has implemented more than 30 projects in this field, and is currently working on 16. The projects' multidisciplinary activities and their wide geographical distribution indicate the extent to which the Organization has been able to initiate or catalyze the development of this subsector of industry.

The programme has resulted in the establishment of small- and medium-scale agro-based industries. These have involved development and transfer of agro-technology; post-harvest technology and process technology; quality assessment; clinical, biological and pharmacological studies; marketing and export promotion.

The main contribution of UNIDO to this process has been to build up a pool of technological and scientific personnel capable of developing, improving and sustaining the industrial utilization of medicinal and aromatic plants in developing countries. Focal points for activities ranging from cultivation to marketing have been created. Interaction and cooperation between research institutes and industry have been initiated, as a result of which research acitivities are expected to increase as their findings are translated into practical use.

Systematic crop-wise cultivation has led to environmental conservation and protection of some endangered plant species. Processing activities have created employment opportunities for the rural poor, in particular women. Exports of essential oils have increased tremendously. Where applicable, technology for the production of absolutes, solvents, concretes and even aroma chemicals have been introduced, and propagation material has been improved. Assistance in marketing aspects, including exporting, has been rendered.

Above all, developing countries' R and D capabilities, including human resources, have been greatly enhanced to ensure the growth of industries based on medicinal and aromatic plants.

For further information, contact the Chemical Industries Branch, Industrial Operations Technology Division, Department of Industrial Operations.

Khalid: We highlighted the importance each developing country government should attach to formulating policies on the conservation of these plants and, at the same time, policies that create even more favourable conditions for their introduction into the health system. There are so many other bodies involved, including other United Nations agencies. In the developing countries, we have the biological material; the industrialized West has the technology. The objective is to bridge the gap between the two. In doing so, the legal aspects, the intellectual property rights and the norms of conservation and of the environment should be respected. We are thinking of drafting a code of ethics so our plant-based products can eventually reach the poor populations in the rural areas conveniently.

Using Romanian expertise, a UNIDO project helped Tanzanians in the preparation of plant-derived pharmaceuticals

Q: It seems that you have double value, because in terms of socio-economic development, you have indeed the health of the nation at heart. How does UNIDO focus on this as far as industrial development is concerned?

Mehdi: This is a prime case where you have something which will not only help people's primary health care but also contribute to their economic uplift. In addition, we are looking at this not purely as an industrial issue but in its totality. We have involved the World Health Organization (WHO), which was the co-sponsor of this meeting, so that the standard-setting side is safeguarded. We have involved the International Trade Centre (ITC), which will advise us on the marketing, the trade side of it. And we have also involved the United Nations Educational, Scientific and Cultural Organization (UNESCO), because, after all, a certain amount of education is needed, both of the population, which will use these preparations and medicaments, as well as of decision makers and Governments. The Food and Agriculture Organization of the United Nations (FAO) would have a role to provide guidance on the cultivation aspects.

Khalid: I think UNIDO has now paved the way to a long and fruitful chain of activities in this subsector. ■

Argentina's automotive industry shifts into top gear

Accelerating the performance of Argentina's automotive industry to enable it to compete in international markets was the subject of a memorandum of intent signed in Vienna on 9 August by Argentina's Vice-Minister of Deregulation and Economic Organization Pablo Rojo and UNIDO Director-General Mauricio de Maria y Campos.

Within the context of its privatization and deregulation programmes, the Government of Argentina issued a decree in 1991 spelling out a set of incentives designed to boost exports in the automotive sector through tariff exemptions on imported inputs. The incentives are directed towards firms and suppliers involved in the entire chain of activities—from the production and assembly of passenger cars, trucks and commercial vehicles to the manufacture of automotive components and spare parts.

The memorandum spells out the intention of the Government of Argentina to place $1.5 million in a trust fund with UNIDO for an initial three years, to be used by the Organization specifically to audit the implementation of the relevant legislation. Working under the supervision of UNIDO, international experts will monitor the application of the Government's policy through verification of detailed information supplied by manufacturers in the automotive industry in the area of import, export and investment.

The country's automotive industry, including joint ventures, has continued to record impressive growth. In 1991, production of cars reached 114,113 units, a 40.7 per cent jump from 1990, while production of commercial vehicles increased to 24,845 units, or 34.1 per cent. In the same year, value of exports—complete and unassembled units as well as components and spare parts—amounted to $242.9 million FOB, a 25 per cent increase from 1990.

Aside from Argentina, UNIDO is cooperating with countries as diverse as Bangladesh, China, Colombia, Cuba, Egypt, India and Zimbabwe to raise the capability and technical competence of their automotive industry. Aimed at helping meet domestic as well as export demands for quality products, projects have set up laboratories and centres for design, quality control and testing; introduced engine prototypes using alternative fuels; designed light commercial vehicles; and provided training, studies and support in implementing national policies in the automotive sector. ■

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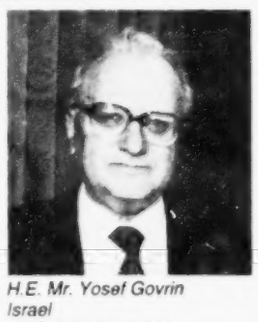

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